

What is Claimed:

- 1 1. A seal for sealing a container opening, said seal comprising at
2 least one tear resisting composite layer consisting of:
 - 3 a) an oriented polymer film layer having a top surface and a inner
4 surface;
 - 5 b) a thermal bonding polymer layer on said oriented polymer layer
6 inner surface substantially coextensive thereto, said thermal bonding polymer layer
7 having a thickness between 10% and 40% of a combined thickness of the oriented
8 polymer film layer and the thermal bonding polymer layer; and
 - 9 c) a reinforcing scrim polymer layer also having an inner surface
10 adjacent and substantially coextensive with the thermal bonding polymer layer said
11 reinforcing having a bottom surface;
- 12 said tear resisting composite layer providing tear resistance to said
13 seal.
- 14 2. The seal according to claim 1 wherein the combined thickness
15 of said polymeric layer and said bonding layer is between about 0.00020 inches and
16 0.003 inches.
- 1 3. The seal according to claim 2 wherein the polymer film layer,
2 the bonding polymer layer and the reinforcing scrim in said tear resisting composite
3 layer all have a chemical composition that permits recycling said composite without
4 separating the layers thereof.

1 4. The seal according to claim 3 further comprising an adhesive
2 layer on said bottom surface of said reinforcing scrim layer.

1 5. The seal according to claim 3 wherein said adhesive layer also
2 has a chemical composition that permits recycling said composite without separating
3 the layers thereof.

1 6. The seal according to claim 4 wherein said adhesive layer is a
2 thermally activated adhesive layer.

1 7. The seal according to claim 2, wherein the oriented polymer
2 film layer, the thermal bonding polymer layer, and the reinforcing scrim polymer
3 layer in said tear resisting composite layer each individually comprise a synthetic
4 condensation polymer,

5 the synthetic condensation polymers each comprising, in polymerized
6 form:

7 1) a) a carboxylic acid or a mixture of carboxylic acids, and
8 b) either i) a diamine or a mixture of diamines, or ii) a diol or a mixture of
9 diols, or

10 2) an ω -amino acid having more than 2 carbon atoms, or a
11 mixture of such amino acids,

12 wherein, for the composite taken as a whole,

13 at least 90 mol% of a combined total amount of the carboxylic acid or
14 the mixture of carboxylic acids in the synthetic condensation polymers is the same
15 carboxylic acid,

16 at least 90 mol% of a combined total amount of the diamine or the
17 mixture of diamines in the synthetic condensation polymers is the same diamine,

18 at least 90 mol% of a combined total amount of the diols or the
19 mixture of diols in the synthetic condensation polymers is the same diol, and

20 at least 90 mol% of a combined total amount of the amino acid or the
21 mixture of amino acids in the synthetic condensation polymers is the same amino
22 acid.

1 8. The seal according to claim 7, wherein the oriented polymer
2 film layer comprises biaxially oriented polyethylene terephthalate.

1 9. The seal according to claim 7 wherein said structure further
2 comprises a thermally activated adhesive layer on said bottom surface of said
3 reinforcing scrim layer.

1 10. The seal according to claim 3 further comprising a blister
2 package adhered to said scrim layer bottom surface.

1 11. The seal according to claim 10 wherein said blister package is
2 peelably adhered to said scrim layer bottom surface through a heat activated
3 adhesive.

1 12. The seal according to claim 11 further comprising a blister
2 package adhered to said bottom surface of said scrim layer and wherein said blister
3 package includes a surface adapted for adhesion to said tear resisting composite
4 layer and an adhesive is coated on said surface adapted for adhesion.

1 13. The seal according to claim 3 wherein at least one of said
2 oriented polymer layer top surface and said oriented polymer layer inner surface
3 contains printed indicia.

1 14. The seal according to claim 3 wherein the tear resisting
2 composite layer further consists of an additional thermal bonding polymer layer on
3 said bottom surface of said scrim layer and an additional polymer film layer, and
4 wherein all such layers have a chemical composition that permits recycling said
5 composite without separating said layers.

1 15. The seal according to claim 3 further comprising a container
2 having an opening and wherein said seal is peelably adhered to and seals said
3 container opening.

1 16. The seal according to claim 3 further comprising at least one
2 special function layer.